អ្នកជំនាញខាងជាណកសាស្ត្រឥណ្ឌូចិន
The Indochina Entomologist
© Entomological Society of Indochina
OPEN ACCESS
New Taxa
ICE, 2 (47): 495–504 (2026)
ISSN (Online) 3065-1107
www.indochinaentomologist.com

https://doi.org/10.70590/ice.2026.02.47
http://zoobank.org/urn:lsid:zoobank.org:pub:11714E7A-8C1C-47F5-ACE1-E909C6711E66

Two new species of the genus *Forcipula* Bolivar, 1897 (Dermaptera, Labiduridae) from the Philippines

Zhi-Teng CHEN[1] & Chao JIANG[2*]

[1]School of Grain Science and Technology, Jiangsu University of Science and Technology, Zhenjiang 212004, China;
https://orcid.org/0000-0002-6331-8978; 741208116@qq.com

[2]State Key Laboratory for Quality Ensurance and Sustainable Use of Dao-di Herbs, National Resource Center for Chinese Materia Medica, China Academy of Chinese Medical Sciences, Beijing 100700, China

*Corresponding author. https://orcid.org/0000-0003-1841-1169; jiangchao0411@126.com

Abstract: Two new species of the earwig genus *Forcipula* Bolivar, 1897 (Dermaptera, Labiduridae), *F. banauensis* **sp. nov.** and *F. ifugaoensis* **sp. nov.**, are described from riparian habitats in Banaue, Ifugao Province, Luzon Island, Philippines. Both species are diagnosed and illustrated based on external morphology and male genital structures. A shared diagnostic feature is the absence of an acute spiniform epimerite at the apex of the external paramere, a character rarely observed in the genus. The sympatric occurrence of two congeners at a single locality underscores the underestimated diversity of Dermaptera in the Philippine archipelago and highlights riparian forest systems as important reservoirs of endemic earwig diversity.

Keywords: biodiversity, earwig, morphology, species description, taxonomy

菲律宾钳蠼属 *Forcipula* Bolivar, 1897 二新种（革翅目：蠼螋科）

陈志腾 [1] & 蒋超 [2*]

[1] 粮食学院，江苏科技大学，镇江 212004，中国
[2] 道地药材品质保障与资源持续利用全国重点实验室，中国中医科学院中药资源中心，北京 100700，中国
*通讯作者

摘要：本文描述了采自菲律宾吕宋岛伊富高省巴纳韦（Banaue）河岸带生境中的钳蠼属 *Forcipula* Bolivar, 1897 两个新种：巴纳韦钳蠼 *Forcipula banauensis* **sp. nov.** 与伊富高钳蠼 *F. ifugaoensis* **sp. nov.**。基于外部形态及雄性外生殖器结构，对二新种进行了鉴别并提供了形态特征图。二者共有的鉴别特征为阳茎基侧突末端缺端部刺突，该特征在钳蠼属内极为少见。此两个同属物种在同一地点的同域分布，表明菲律宾群岛革翅目昆虫的多样性被严重低估，同时突显出河岸森林系统是特有蠼螋多样性的重要储库。

关键词：生物多样性，蠼螋，形态学，物种描述，分类学

Citation: Chen Z-T & Jiang C 2026: Two new species of the genus *Forcipula* Bolivar, 1897 (Dermaptera, Labiduridae) from the Philippines. *The Indochina Entomologist*, 2 (47): 495–504. [陈志腾 & 蒋超 2026: 菲律宾钳蠼属 *Forcipula* Bolivar, 1897 二新种（革翅目：蠼螋科）. 中南半岛昆虫学家, 2 (47): 495–504.]
https://doi.org/10.70590/ice.2026.02.47

Accepted by Cheng-Bin WANG: 11.VIII.2026; published online: 20.VIII.2026

Copyright Zhi-Teng CHEN & Chao JIANG. This is an open access article distributed under the terms of the Creative Commons Attribution License (CCBY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

The earwig family Labiduridae Verhoeff, 1902 is a moderately diverse cosmopolitan lineage comprising approximately 50 extant species in four genera and two subfamilies (Hopkins *et al*. 2026). Members are characterized by elongate, moderately flattened bodies, well-developed tegmina and hind wings in most taxa, and sexually dimorphic terminal abdominal structures, particularly the forceps, which are frequently diagnostic at species level.

Within Labiduridae, *Forcipula* Bolivar, 1897 (Labidurinae Verhoeff, 1902) represents a morphologically distinctive but species-poor genus characterized by elongate forceps, modified male pygidium, and structurally complex male genitalia, especially the virga and external parameres (Steinmann 1980, 1989; Srivastava 2003). The genus currently comprises 25 described extant species (Chen 2025), with its diversity concentrated in the Oriental Region. Species are typically associated with humid forests, riparian zones, and leaf-litter habitats, where they function as nocturnal predators and scavengers (Tian *et al*. 2025).

Despite its wide distribution across South and Southeast Asia, *Forcipula* remains insufficiently studied in many regions. Species delimitation is often hindered by morphological conservatism in somatic traits and reliance on male genital structures for reliable diagnosis. In the Philippines, only four species have been historically recorded: *F. banksi* Borelli, 1915, *F. despinosa* Hebard, 1917, *F. quadrispinosa* (Dohrn, 1863), and *F. tarsata* (Westwood, 1857) (Steinmann 1980, 1989). Considering the archipelago's complex geological history, strong insular isolation, and habitat heterogeneity, its *Forcipula* diversity is likely substantially underestimated.

Recent surveys in Southeast Asia have further revealed hidden diversity within the genus, suggesting that additional undescribed taxa remain in poorly sampled regions (Chen 2025). During fieldwork in riparian habitats of Ifugao Province, Luzon Island, two undescribed species were collected. Detailed morphological examination of external characters and male genitalia confirms that these represent distinct new species, described herein as *F. banauensis* **sp. nov.** and *F. ifugaoensis* **sp. nov.** Diagnostic comparisons with congeners are also provided.

Material and methods

Specimens were collected manually from riparian habitats and preserved in 75% ethanol. Morphological examinations were conducted using an SZM45 stereomicroscope (Sunny Optical Technology (Group) Co., Ltd., Zhejiang, China). Habitus images were captured with a Canon EOS 5DS R camera (Canon, Tokyo, Japan) equipped with an MP-E 65 mm macro lens (Canon, Tokyo, Japan). Male genitalia were photographed using a Canon EOS 5DS R mounted on an Olympus BX51 microscope (Olympus, Tokyo, Japan). Images were processed in Adobe Photoshop 2025 (Adobe Inc., San Jose, U.S.A.) for clarity and contrast enhancement. Morphological terminology follows Srivastava (2003). All examined material is deposited in the Insect Collection of Jiangsu University of Science and Technology (**ICJUST**), Zhenjiang, China.

Taxonomy

Forcipula banauensis sp. nov. 巴纳韦钳蝼

https://zoobank.org/C2515BDD-E005-4194-988F-C607A63BD591

Figs 1–3

Type material. Holotype: ♂ (ICJUST): **PHILIPPINES:** Ifugao Province, Banaue, Tappiyah Falls, 16.939747°N, 121.136816°E, 800 m, 2024.VI.5, local collector. **Paratype:** ♀ (ICJUST): same data as holotype.

Etymology. The new species is named after Banaue, the type locality in Ifugao Province, Philippines.

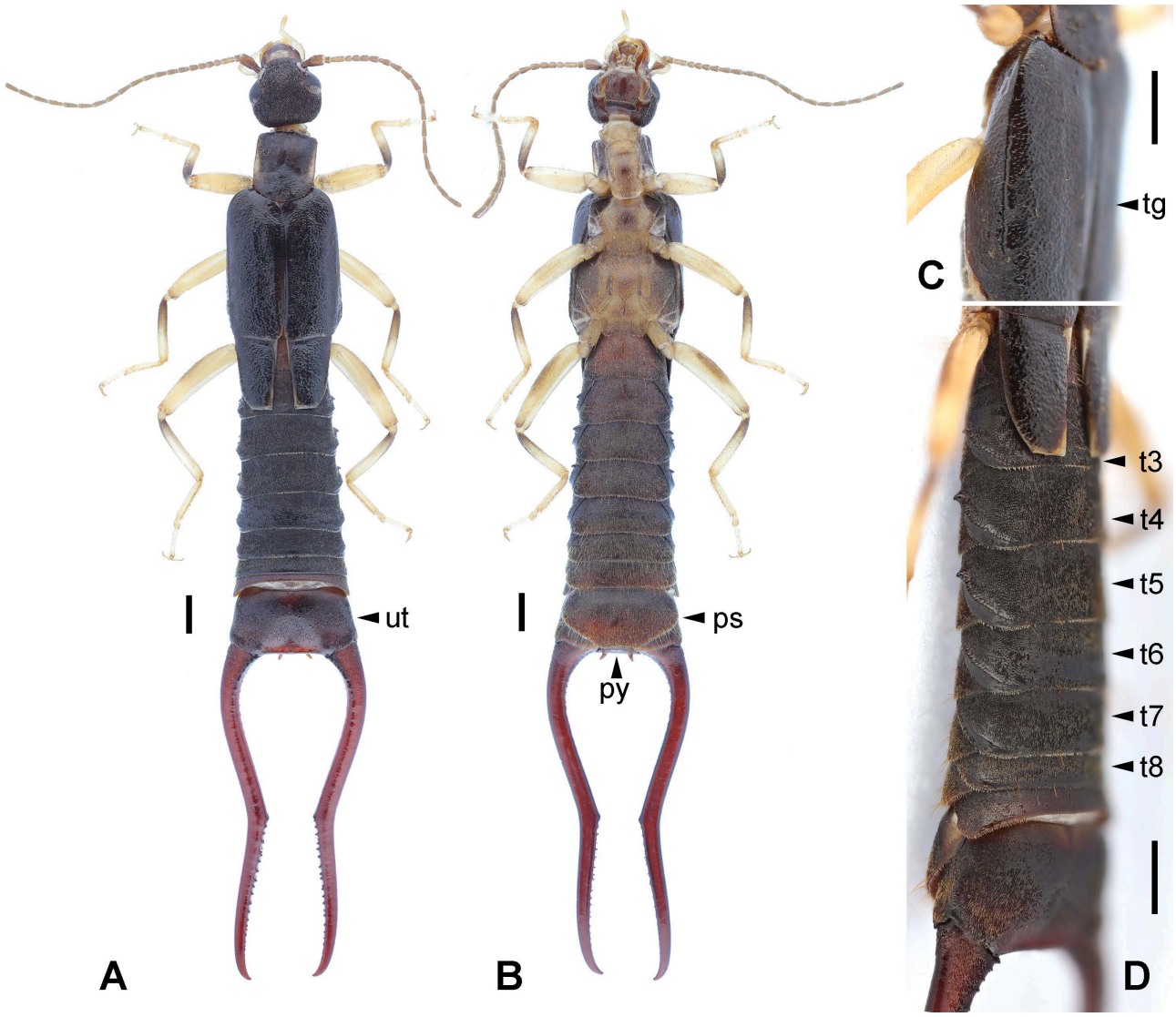

FIGURE 1. *Forcipula banauensis* **sp. nov.**, male holotype: **A** habitus, dorsal view **B** habitus, ventral view **C** left tegmen, dorsolateral view **D** abdomen, dorsolateral view. Abbreviations: ps, penultimate sternite; py, pygidium; t3–t8, tergite 3 to tergite 8; ut, ultimate tergite. Scale bars = 1 mm.

Diagnosis. This species is distinguished from most congeners by the absence of an acute spiniform epimerite at the apex of the external paramere (Steinmann 1980, 1989; Srivastava 2003; Chen 2025). It most closely resembles *F. baoshana* Chen, 2025 but differs in the absence of paired subtriangular teeth on the male forceps, the distinctly incurved external paramere (straight in *F. baoshana*), and the apically coiled virga (apically outcurved in *F. baoshana*).

Description. Male. Body elongate, subcylindrical (Fig. 1A, B); body length (without forceps) 15.9 mm; forceps length 8.8 mm.

Head brown (Fig. 1A); 1.2× longer than wide; posterior margin truncate; frontal and coronal sutures distinct; eyes large, slightly shorter than postocular region. Antennae with ≥21 segments; scape 2/3 distance between antennal bases, basally constricted; pedicel short, subquadrate; third segment 2× pedicel; distal segments progressively elongate.

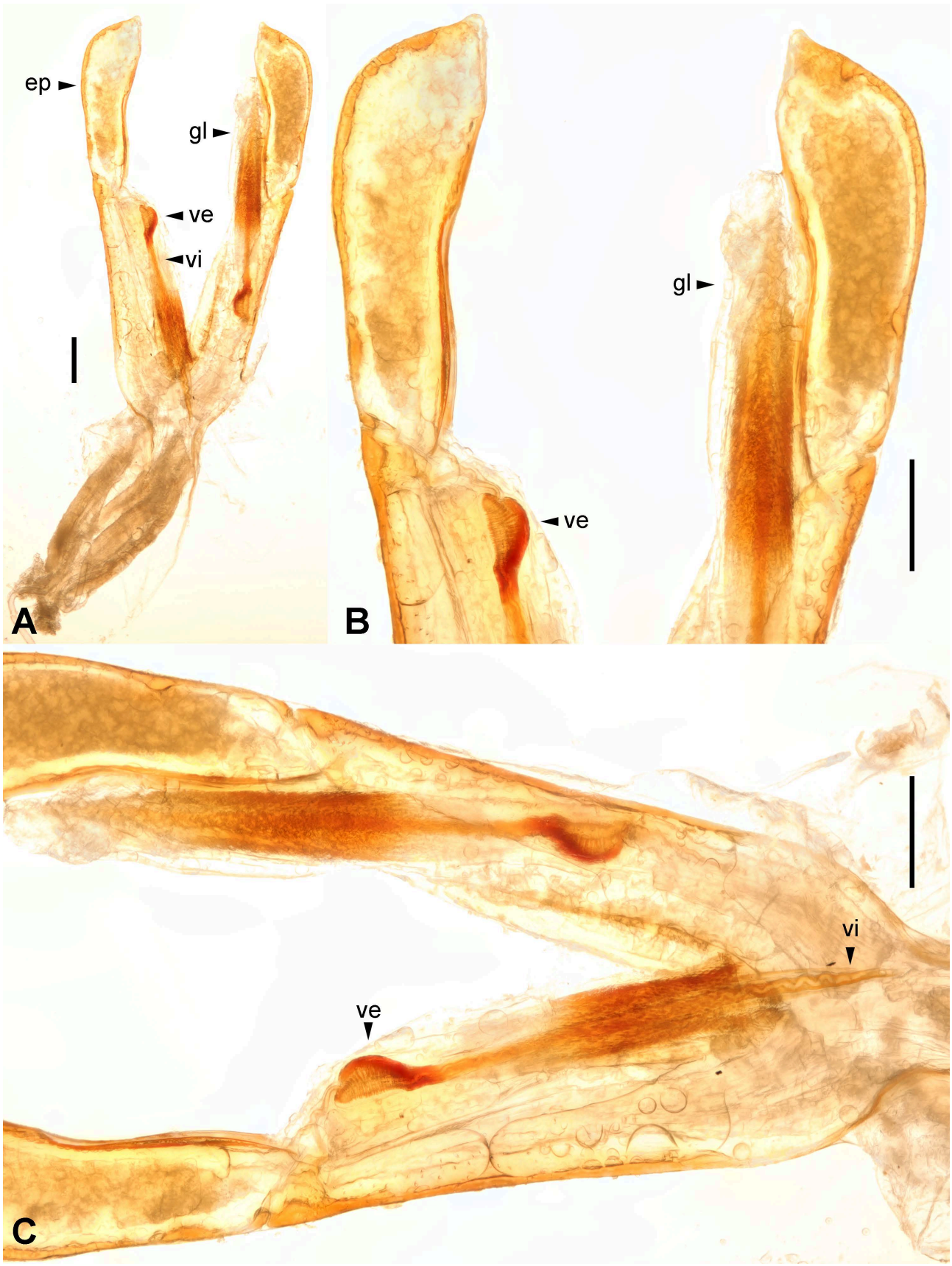

FIGURE 2. *Forcipula banauensis* **sp. nov.**, male holotype: **A** genitalia, dorsal view **B** apical part of genitalia, dorsal view **C** basal part of genitalia, dorsal view. Abbreviations: ep, external paramere; gl, genital lobe; ve, vesicle; vi, virga. Scale bars = 0.2 mm.

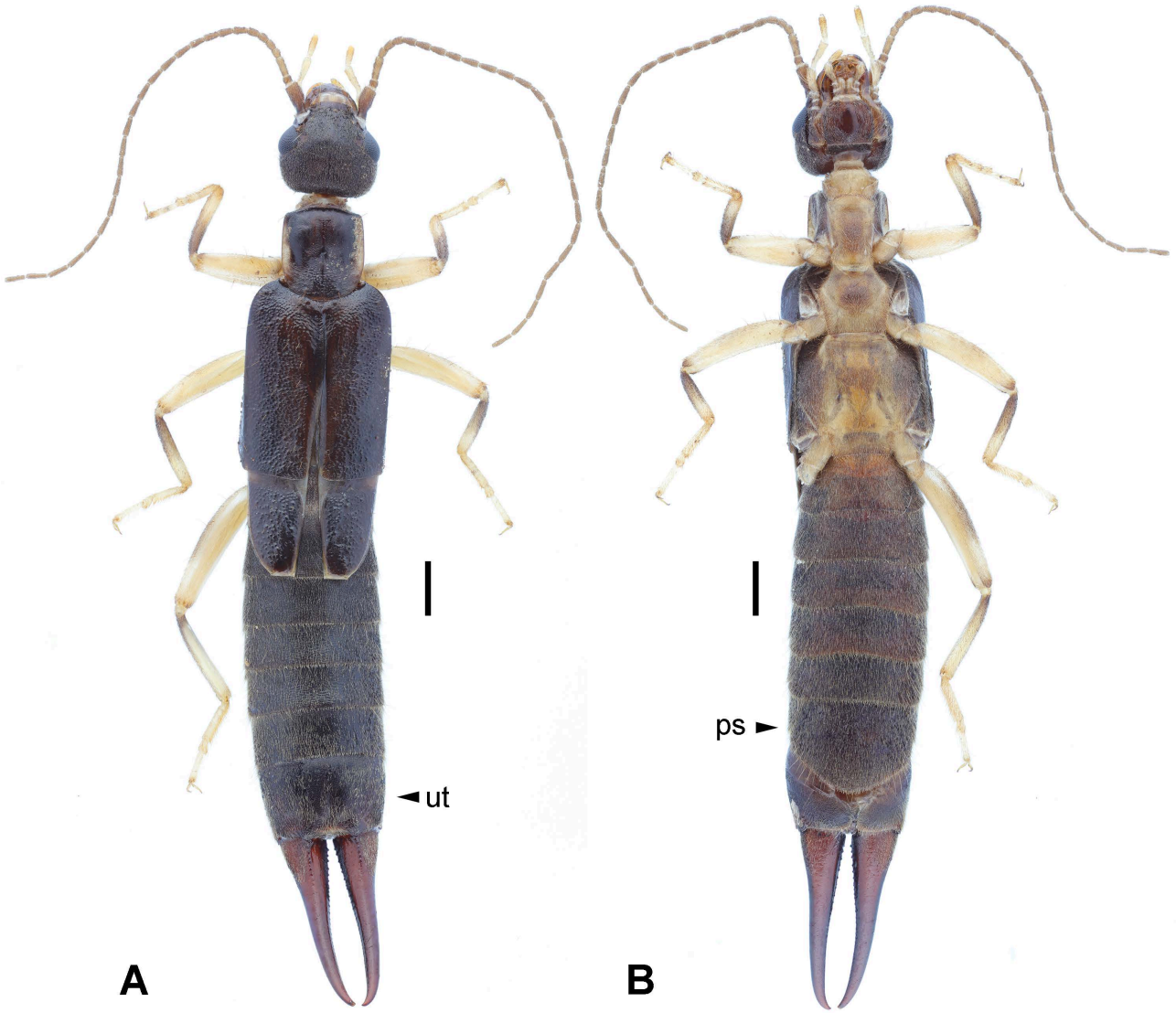

FIGURE 3. *Forcipula banauensis* **sp. nov.**, female paratype: **A** habitus, dorsal view **B** habitus, ventral view. Abbreviations: ps, penultimate sternite; ut, ultimate tergite. Scale bars = 1 mm.

Pronotum dark brown with yellow lateral margins (Fig. 1A); 1.1× longer than wide; narrower than head; lateral margins subparallel; posterior margin broadly rounded; median longitudinal furrow distinct; posteromedial surface granular. Tegmina dark brown, tuberculate; 2.2× longer than pronotum; lateral ridges distinct at anterior 3/4 (Fig. 1C); posterior margin subtruncate. Hind wing scales dark brown, tuberculate, 1.1 times longer than pronotum. Legs slender (Fig. 1A, B), mostly yellow; tibial bases dark brown; hind basitarsus 1.1× combined length of tarsomeres II–III.

Abdomen dark brown, gradually widening posteriorly (Fig. 1A, B). Abdominal tergites 3–5 with serrated posterolateral ridges terminating in prominent basal spine (Fig. 1D); tergite 6 similarly but weaker; tergites 7–8 with weak smooth posterolateral ridges. Ultimate tergite reddish brown (Fig. 1A), transverse, posteriorly widened, median furrow obsolete, with posterolateral papillary lobes near base of forceps. Pygidium transverse, with two digitiform lobes projecting posterolaterally (Fig. 1A, B). Penultimate sternite transverse (Fig. 1B), near twice as wide as long, lateral margins rounded, posterior margin emarginate. Forceps reddish, sinuate, medially incurved; basal portion depressed; inner margin with sparse tubercles at basal 1/4 and blunt tooth at bend, apical half densely denticulate.

Genitalia slender (Fig. 2A–C); paired genital lobes well developed, nearly as long as external paramere, weakly sclerotized near apex. Virga straight at basal half, coiled at apical half, apex blunt. Basal vesicle semicircular, sclerotized. External paramere slender; basal half constricted; inner margin sinuate, gently concave medially; outer margin straight at basal half, rounded at apical half; apex constricted, blunt; epimerite at tip of external paramere vestigial.

Female. Body color and general external morphology similar to male (Fig. 3A, B). Ultimate tergite narrowed posteriorly. Penultimate sternite with broadly rounded posterior margin. Forceps nearly straight, contiguous basally, with denticulate inner margins.

Distribution. This species is currently known only from Banaue, Ifugao Province, Philippines.

Forcipula ifugaoensis sp. nov. 伊富高钳螋

https://zoobank.org/8AED3EC5-562A-42DD-9B7E-7BA12CFD699E

Figs 4–5

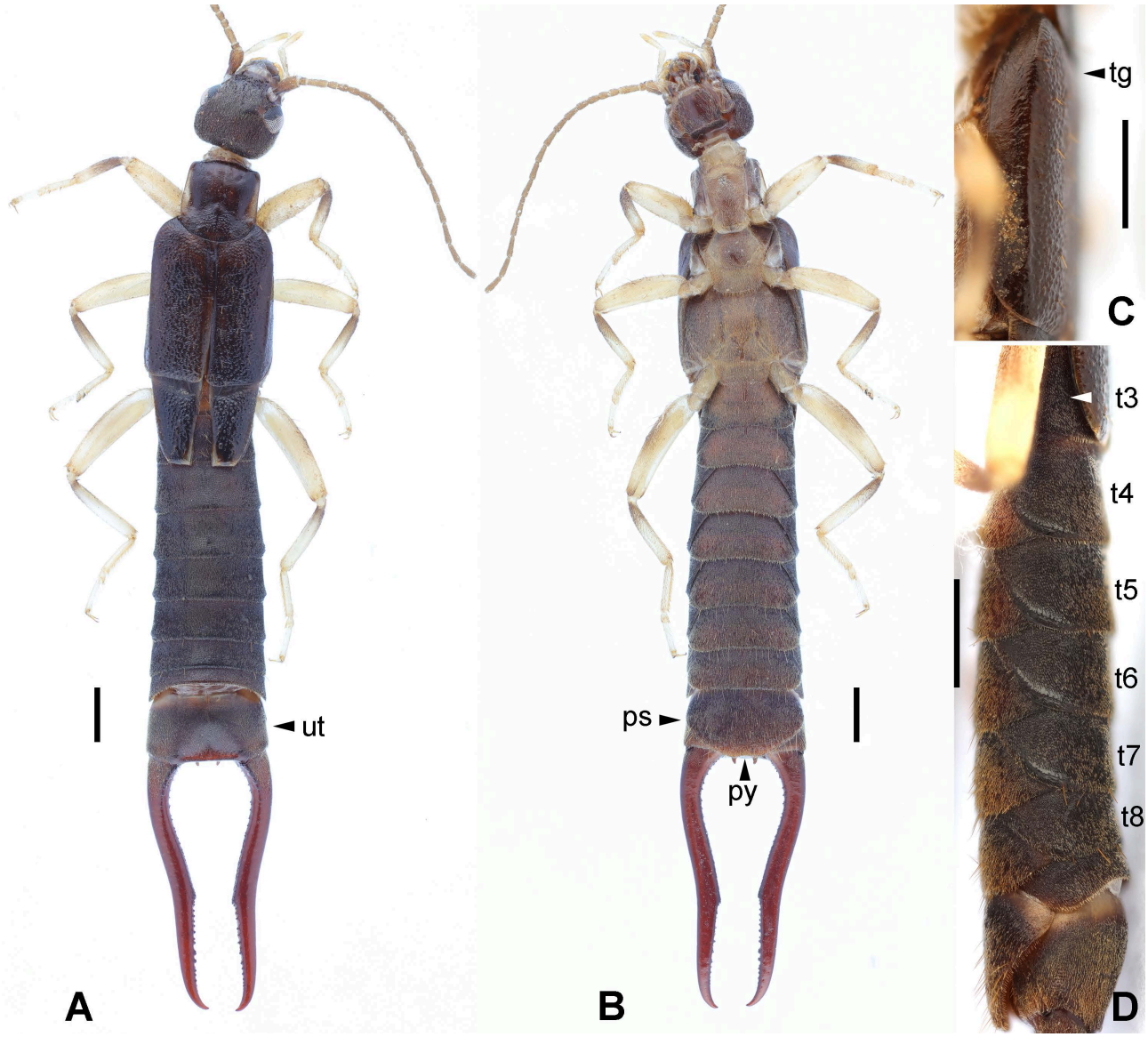

FIGURE 4. *Forcipula ifugaoensis* **sp. nov.**, male holotype: **A** habitus, dorsal view **B** habitus, ventral view **C** left tegmen, dorsolateral view **D** abdomen, lateral view. Abbreviations: ps, penultimate sternite; py, pygidium; t3–t8, tergite 3 to tergite 8; ut, ultimate tergite. Scale bars = 1 mm.

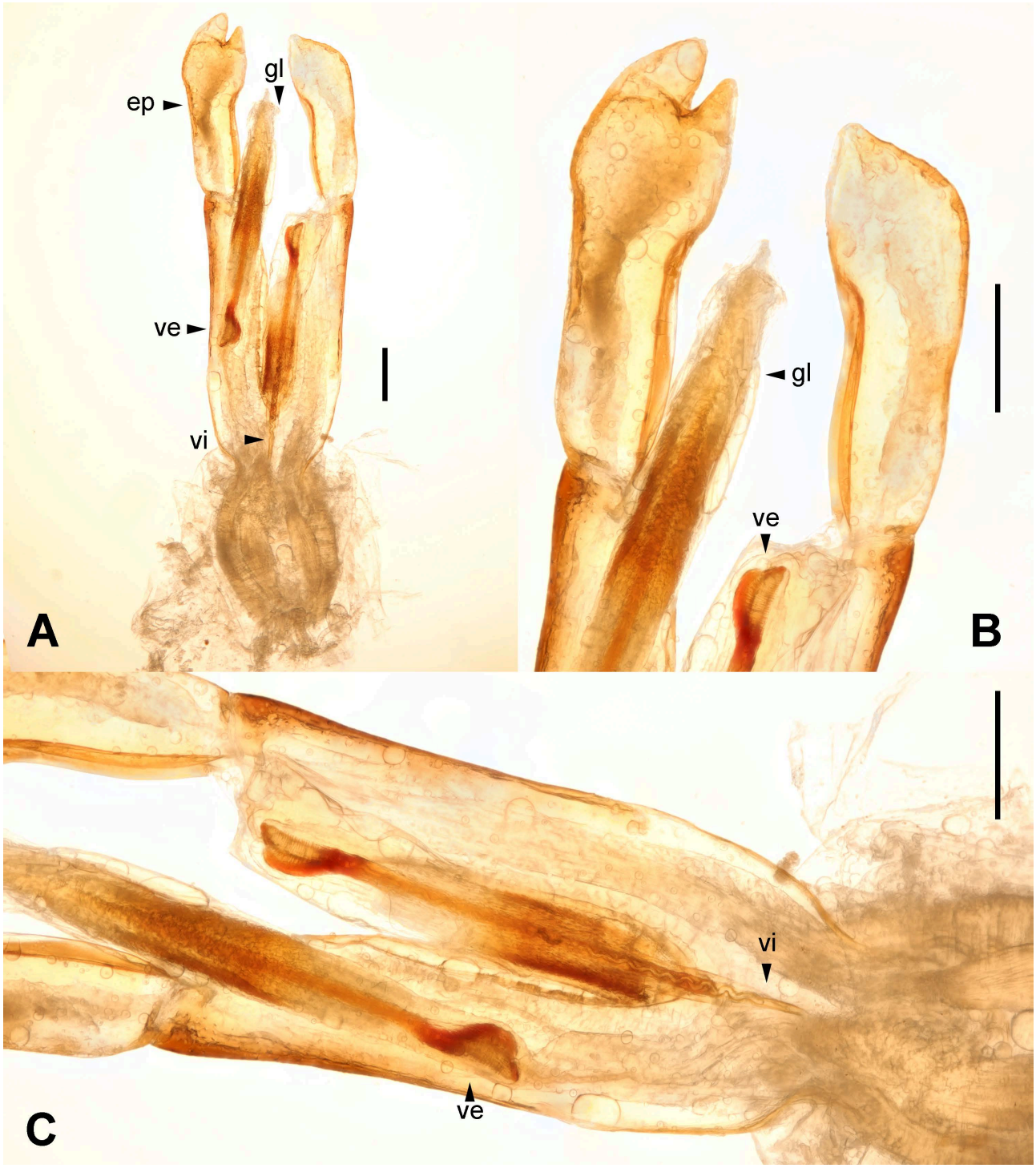

FIGURE 5. *Forcipula ifugaoensis* **sp. nov.**, male holotype: **A** genitalia, dorsal view **B** apical part of genitalia, dorsal view **C** basal part of genitalia, dorsal view. Abbreviations: ep, external paramere; gl, genital lobe; ve, vesicle; vi, virga. Scale bars = 0.2 mm.

Type material. Holotype: ♂ (ICJUST): **PHILIPPINES:** Ifugao Province, Banaue, Tappiyah Falls, 16.939747°N, 121.136816°E, 800 m, 2024.VI.5, local collector.

Etymology. The new species is named after its type locality in Ifugao Province, Philippines.

Diagnosis. The new species is distinguished by the absence of an acute spiniform epimerite at the external paramere apex (Steinmann 1980, 1989; Srivastava 2003; Chen 2025). It is closely related to *F. banauensis* sp. nov., but differs in abdominal tergite sculpture (4–7 weakly ridged vs. 3–8 in *F. banauensis* sp. nov.), pygidial lobes directed posteromedially (vs. posterolaterally), and external parameres distinctly asymmetrical and constricted at apical 1/3 (vs. symmetrical and constricted medially).

Description. Male. Body elongate, subcylindrical (Fig. 4A, B); length without forceps 12.9 mm; forceps length 4.8 mm.

Head dark brown (Fig. 4A); 1.1 times longer than wide; posterior margin weakly emarginate; frontal and coronal sutures indistinct. Eyes large, shorter than postocular region. Antennae with ≥ 18 segments; scape 2/3 in length of distance between antennal bases, constricted basally; pedicel short, near as long as wide; third segment 3× longer than pedicel; subsequent segments gradually elongate.

Pronotum dark brown (Fig. 4A), with yellow lateral margins; 1.1× longer than wide, narrower than head, with granular posteromedial surface; lateral margins slightly divergent posteriorly; posterior margin broadly rounded; median longitudinal furrow distinct. Tegmina dark brown, tuberculate, twice as long as pronotum; lateral ridges extending to apical 12/13 (Fig. 4C); posterior margin subtruncate. Hind wing scales dark brown, tuberculate, nearly as long as pronotum. Legs slender, mostly yellow; tibial bases dark brown; hind basitarsus 1.1× combined length of tarsomeres II–III.

Abdomen dark brown, gradually expanded to ultimate tergite (Fig. 4A, B). Abdominal tergites 4–7 with weakly serrated posterolateral ridges (Fig. 4D). Ultimate tergite reddish brown (Fig. 4A), transverse, widened posteriorly, pubescent, median longitudinal furrow indistinct, with posterolateral papillary lobes near base of forceps. Pygidium transverse (Fig. 4A, B), with two digitiform lobes projecting posteromedially. Penultimate sternite transverse (Fig. 4B), near twice as wide as long, lateral margins rounded, posterior margin emarginate. Forceps reddish, sinuate, incurved at apical 2/5; basal region depressed; inner margin with sparse tiny tubercles at basal half and a blunt tooth at point of bend, apical 2/5 densely denticulate.

Genitalia slender (Fig. 5A–C); paired genital lobes well developed, longer than external paramere, weakly sclerotized near apex. Virga straight at basal half, coiled at apical half, apex blunt. Basal vesicle semicircular, sclerotized. External paramere slender; basally constricted until apical 1/3; inner margin sinuate, concave near apical 1/3; outer margin almost straight at basal half, rounded at apical half; apex of right external paramere simple, constricted, blunt; apex of left external paramere bifurcated into two blunt lobes; epimerite at tip of external paramere vestigial.

Distribution. This species is currently known only from Banaue, Ifugao Province, Philippines.

Discussion

The two new species described herein increase the known diversity of *Forcipula* in the Philippines from four to six and confirm that the genus remains undersampled in insular Southeast Asia. Previous records from the archipelago are scarce and largely historical, indicating that the regional fauna is still incompletely known.

The asymmetry observed in the external parameres of *F. ifugaoensis* sp. nov. (right simple, left apically bifurcate) is noteworthy, as external parameres in *Forcipula* are generally symmetrical. This condition may represent a species-specific modification of the copulatory apparatus, and provides an additional diagnostic character separating it from congeners, including the sympatric *F. banauensis* sp. nov. Further sampling is required to assess whether this condition is stable within populations or represents an individual-level trait.

The co-occurrence of two distinct species at a single locality in Banaue suggests local sympatry within *Forcipula*, potentially associated with microhabitat partitioning in riparian forest systems. In Dermaptera, male genital structures are considered highly informative for species delimitation and reproductive isolation; the marked divergence in virga structure and paramere morphology strongly supports species-level separation. Further

integrative studies combining expanded sampling and molecular data will be necessary to resolve species boundaries and assess phylogenetic relationships within the genus.

Acknowledgements

We are grateful to the editor and reviewers for providing constructive comments.

References

Bolivar I 1897: Les Orthoptères de St-Joseph's College à Trichinopoly (Sud de l'Inde). *Annales de la Société Entomologique de France*, 66: 282–316.

Borelli A 1915: Dermatteri delle Isole Filippine. *Bollettino dei Musei di Zoologia ed Anatomia comparata della Royal Università di Torino*, 30 (697): 1–7.

Chen Z-T 2025 Species checklist of the genus *Forcipula* Bolivar, 1897 (Dermaptera, Labiduridae), with the description of a new species from China. *The Indochina Entomologist*, 1 (42): 419–425. [陈志腾 2025: 钳蝼属名录及中国一新种记述（革翅目：蠼螋科）. 中南半岛昆虫学家, 1 (42): 419–425.]
https://doi.org/10.70590/ice.2025.01.42

Dohrn H 1863: Versuch einer Monographie der Dermapteren. *Entomologische Zeitung*, 24: 309–322.

Hebard M 1917: Dermapterological notes. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 69 (2): 231–250.

Hopkins H, Haas F & Deem LS 2026: *Dermaptera Species File*. Available from: https://dermaptera.speciesfile.org (accessed: 2.VII.2026)

Srivastava GK 2003: Fauna of India and the adjacent countries. Dermaptera (Part II): (Superfamily: Anisolaboidea). *Zoological Survey of India*, 2003: 1–235.

Steinmann H 1980: A revision of species belonging to *Forcipula* Bolivar, 1897 (Dermaptera: Labiduridae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 26 (1–3): 229–252.

Steinmann H 1989: Dermaptera, Part II: Catadermaptera (II): Carcinophoridae, Labiduridae and Apachyidae. *Des Tierreich*, 105: 1–495.

Tian Y, Yang C, Li H-B & Chen Z-T 2025: New records of two riparian species of Labiduridae (Insecta, Dermaptera) from Guizhou Province, China. *Check List*, 21 (6): 1289–1297.
https://doi.org/10.15560/21.6.1289

Verhoeff KW 1902: Über Dermapteren. 1. Aufsatz. Versuch eines neuen, natürlichen Systems auf vergleichend-morphologischer Grundlage und über den Mikrothorax der Insecten. *Zoologischer Anzeiger*, 25: 181–209.

Westwood JO 1857 [1838]: Characters of new insects from Manilla collected by Mr. Cuming. *Proceedings of the Zoological Society of London*, 5: 127–130.

Additional information

Author contributions: Visualization, Writing–original draft: Z-T Chen. Project administration, Resources, Supervision, Writing–review and editing: C Jiang. All authors read and approved the final version of the manuscript.

Conflict of interest: The authors have declared that no competing interests exist.

Data availability: All of the data that support the findings of this study are available in the main text.

Ethical statement: No ethical statement was reported.

Funding: This research was supported by grants from the CACMS Innovation Fund (no. CI2025G00-08) and Key project at central government level: The ability establishment of sustainable use for valuable Chinese medicine resources (no. 2060302).

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of *ICE* and/or the editor(s). *ICE* and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.